

AMENDMENTS TO THE CLAIMS

The claims in this listing will replace all prior versions, and listings, of claims in the application.

1-6. (Canceled)

7. (New) A reception method for a wireless communication system based on adaptively selecting one of a plurality of modulation schemes according to variations in a propagation path characteristic, the method comprising:

adding a priority order to the plurality of demodulation schemes according to a reception quality or a reception level of a received signal;

estimating likelihoods of the plurality of demodulation schemes for the received signal individually in descending order of the priority until a predetermined likelihood is obtained, and confirming the demodulation scheme for which the predetermined likelihood is obtained as a demodulation scheme of the received signal, without estimating likelihoods of demodulation schemes having lower priority than the demodulation scheme for which the predetermined likelihood is obtained; and

executing demodulation of the received signal using the confirmed demodulation scheme.

8. (New) The reception method according to claim 7, wherein in adding a priority order, the priority order is determined based on a demodulation scheme previously estimated and reception quality of the received signal which is demodulated using the demodulation scheme previously estimated, or the demodulation scheme previously estimated and the reception level of the received signal.

9. (New) The reception method according to claim 7, further comprising deciding a threshold to be compared with the predetermined likelihood based on the reception quality of the

received signal, wherein in the estimating, the predetermined likelihood is compared with the decided threshold to estimate a demodulation scheme.

10. (New) A reception apparatus for a wireless communication system based on adaptively selecting one of a plurality of modulation schemes according to variations in a propagation path characteristic, the apparatus comprising:

a demodulation scheme estimator that demodulates a received signal using a predetermined demodulation scheme of the plurality of demodulation schemes, calculates a likelihood of the demodulated received signal and estimates whether or not the demodulation scheme is a demodulation scheme corresponding to the modulation scheme of the received signal, based on the calculated likelihood;

a demodulation scheme estimation controller that adds a priority order to the plurality of demodulation schemes according to reception quality or reception level of the received signal, causes the demodulation scheme estimator to estimate likelihoods of the plurality of demodulation schemes for the received signal individually in descending order of the priority until a predetermined likelihood is obtained, and confirms the demodulation scheme for which the predetermined likelihood is obtained as a demodulation scheme of the received signal, without estimating likelihoods of demodulation schemes having lower priority than the demodulation scheme for which the predetermined likelihood is obtained; and

a demodulator that demodulates the received signal using the confirmed demodulation scheme.

11. (New) A wireless communication system comprising:

a transmission apparatus that adaptively selects a modulation scheme corresponding to a transmission signal of a plurality of modulation schemes according to variations in a propagation path characteristic; and

a reception apparatus that comprises:

a demodulation scheme estimator that demodulates a received signal using a predetermined demodulation scheme of the plurality of demodulation schemes, calculates a likelihood of the demodulated received signal and estimates whether or not the demodulation scheme is a demodulation scheme corresponding to the modulation scheme of the received signal, based on the calculated likelihood;

a demodulation scheme estimation controller that adds a priority order to the plurality of demodulation schemes according to reception quality or reception level of the received signal, causes the demodulation scheme estimator to estimate likelihoods of the plurality of demodulation schemes for the received signal individually in descending order of the priority until a predetermined likelihood is obtained, and confirms the demodulation scheme for which the predetermined likelihood is obtained as a demodulation scheme of the received signal, without estimating likelihoods of demodulation schemes having lower priority than the demodulation scheme for which the predetermined likelihood is obtained; and

a demodulator that demodulates the received signal using the confirmed demodulation scheme.